Olympic Region, Area 2
Integrated Roadside Vegetation Management Plan

2009

Washington State Department of Transportation
Maintenance and Operations Division

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Summary

This plan explains the Washington State Department of Transportation's (WSDOT) policy and practice for maintenance of roadside vegetation for Maintenance Area 2 within the agency's Olympic Region. This area manages vegetation within approximately 260 miles of state highway corridor, primarily in Kitsap and Mason Counties but with short sections in Pierce and Jefferson as well. The main corridor in the area is State Route (SR) 16 between Tacoma and Bremerton, but the area also maintains portions of other major limited access highways along SR 3 and US 101. There are many secondary routes in the area, mostly forested and rural in character, some are exceptionally high in scenic quality. A map of the area is included as **Figure 1** on the following page.

The primary objectives in maintenance of roadside vegetation within the area are in relation to safety of the highway users, preservation of the highway infrastructure, and control of legally designated noxious weeds where they occur on the right of way. Other considerations include protection and preservation of natural environment, preserving and enhancing the natural scenic quality of the roadside, and being a good neighbor to the many adjoining property owners. In all cases, roadside vegetation maintenance activities are planned and conducted in a way that discourages or eliminates unwanted vegetation and promotes desirable vegetation. This is the basic premise of Integrated Vegetation Management (IVM) and the foundation of the program.

This document and associated information management tools serve as the primary reference for maintenance of roadside vegetation in the area. Included is detailed information on agency, region, and area policies along with locations for planned routine maintenance practices, reoccurring noxious weed infestations, sensitive areas, and other areas with special management considerations. Also included are guidelines and prescriptions for best management practices in dealing with roadside vegetation problems and opportunities. In effect, this plan supports WSDOT's compliance with state law (RCW 17.15) by implementing the principles of Integrated Pest Management for the management of roadside vegetation. It also supports WSDOT's long-range goals for the management of roadsides to:

- Create the most naturally stable, sustainable plant communities possible
- Improve effectiveness and efficiency in the control of weeds and unwanted trees and brush
- Reduce maintenance cost and herbicide use over time

This plan is organized around six major categories of roadside vegetation maintenance work. The major categories include: Zone 1 (or pavement edge maintenance), Routine Mowing, Noxious Weed Control, Nuisance Weed Control, Tree and Brush Control, and Special Maintenance Areas.

The management of roadside vegetation is a dynamic process and it is intended that this plan be continuously adapted over time based on input from a variety of sources. An integral component of the process is a database for recording IVM treatments for specific vegetation controls and locations, and to record information on follow up evaluation on these treatments. Annual area meetings are held to discuss what is learned each year and refine the plan over time.

WSDOT is also requesting that local public and private entities with an interest in weed control and roadside vegetation management provide input on the plan and cooperate in efforts where appropriate. Additional copies of the draft plan are available online: www.wsdot.wa.gov/maintenance/vegetation/mgmt_plans.htm, hard copies can also be provided upon request. Please contact Duke Stryker or Ray Willard at the numbers listed below for questions or comments:

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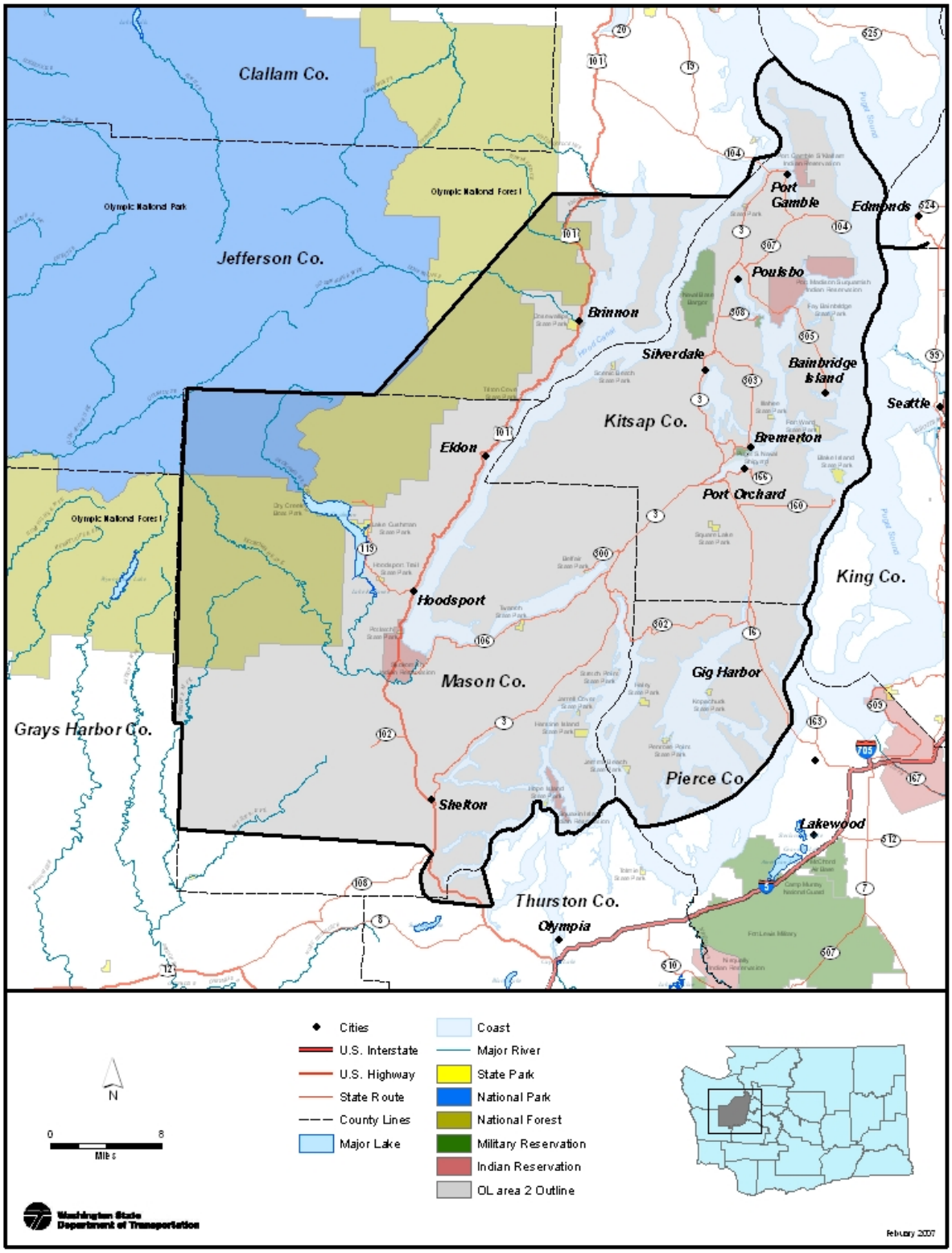


Olympic Region, Area 2
Figure 1

Roadside Management Considerations

The primary objectives for maintenance of roadside vegetation are to provide for safe highway operation and to comply with legal regulations for control of noxious weeds and protection of the environment. Overall WSDOT maintenance policy and procedures for roadside vegetation are defined in Chapter 6 of the WSDOT Maintenance Manual (M51-01, March 2002) www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/MaintenanceManual.pdf

Visual Quality
It is also important to maintain appropriate visual standards in the appearance of the roadside. This is particularly important in Area 2, with much of the local economy dependent on the tourist industry. All maintenance activities will be conducted in a way that minimizes visual impacts such as wide spread "brown-out" from herbicides or shattered limbs from side trimming. Roadsides should look as natural as possible throughout the year. Appropriate visual quality for roadsides throughout the state is defined in the WSDOT Roadside Classification Plan (June 1996) www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/RCP.pdf

Operational Zones
WSDOT roadsides are divided into several zones for the purposes of assigning management objectives, maintenance needs, and thresholds for triggering vegetation maintenance actions. Noxious weed species designated for control by state and county law are controlled throughout all zones. Not all management zones occur along all state highways. In some cases the narrow width of the right-of-way or adjoining land-use, limits the operational zones to Zone 1 and/or a narrow Zone 2 only. Roadside vegetation management zones are illustrated in **Figure 2** below and defined as follows:

> **Zone 1** – A vegetation free gravel shoulder, where needed, is maintained as a one to three-foot wide strip to provide for key maintenance, operational, safety, and pavement and guardrail preservation needs. Zone 1 is typically maintained with an annual application of herbicides.
>
> **Zone 2** – The operational zone extends from the edge of Zone 1 or the pavement edge (if Zone 1 is not present) to a width necessary to provide for safe errant vehicular recovery, maintain sight distance at corners and intersections, and provide for other operational, safety, and environmental functions. Zone 2 is typically maintained by mowing a single pass adjacent to the pavement and through selective removal of unwanted trees and brush beyond the mowing strip out to the edge of Zone 3 or the right of way line.
>
> **Zone 3** – In areas with sufficient right-of-way width, a buffer or transition zone extends from Zone 2 to the right-of-way line to provide a buffer or transitional area between the highway facility and adjacent land uses, or to accommodate large cut or fill slopes. This area is maintained selectively, and to the greatest degree possible as a self-sustaining plant community, to minimize erosion as well as the growth of weeds and undesirable trees and brush.

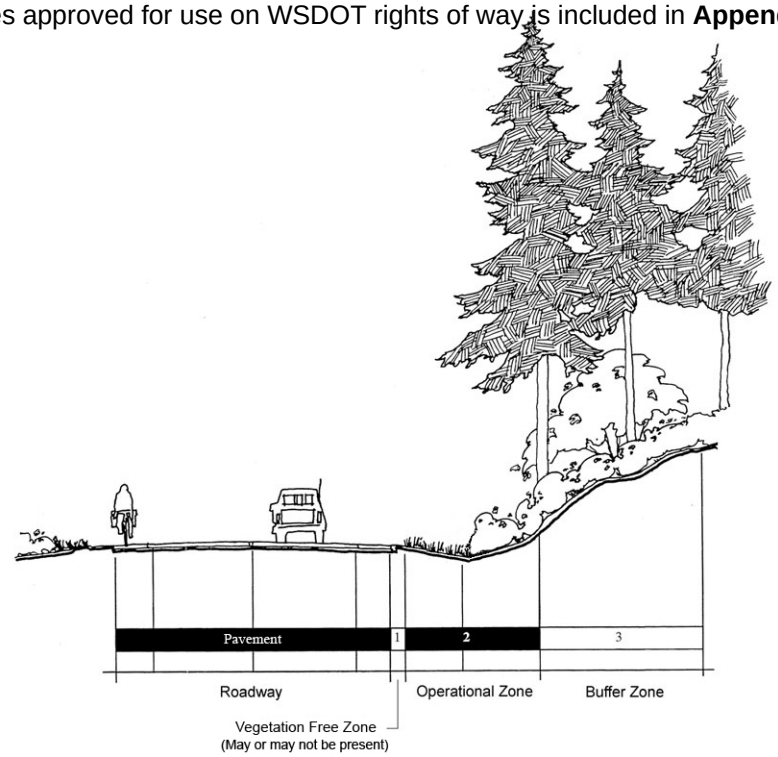
Roadside Maintenance Activities
All roadside maintenance activities are to be planned and conducted in a way that discourages or eliminates unwanted vegetation and promotes desirable vegetation. This is the basic premise of Integrated Vegetation Management. In every case it is essential that the results of maintenance activities are evaluated and adjusted as necessary to maximize efficiency and effectiveness. However, in some cases maintenance activities are conducted routinely on an annual basis, such as application of herbicides for maintenance of Zone 1 and mowing for safety.

> **Routine Maintenance Activities** – When vegetation maintenance activities are required to keep the area of roadside being treated in an annually controlled condition, activities are considered routine. This is more critical for areas of vegetated roadside near the travel lanes, edge of pavement, and around guardrails. This plan provides prescriptions and gives locations for routine maintenance activities including maintenance of Zone 1 and annual mowing.

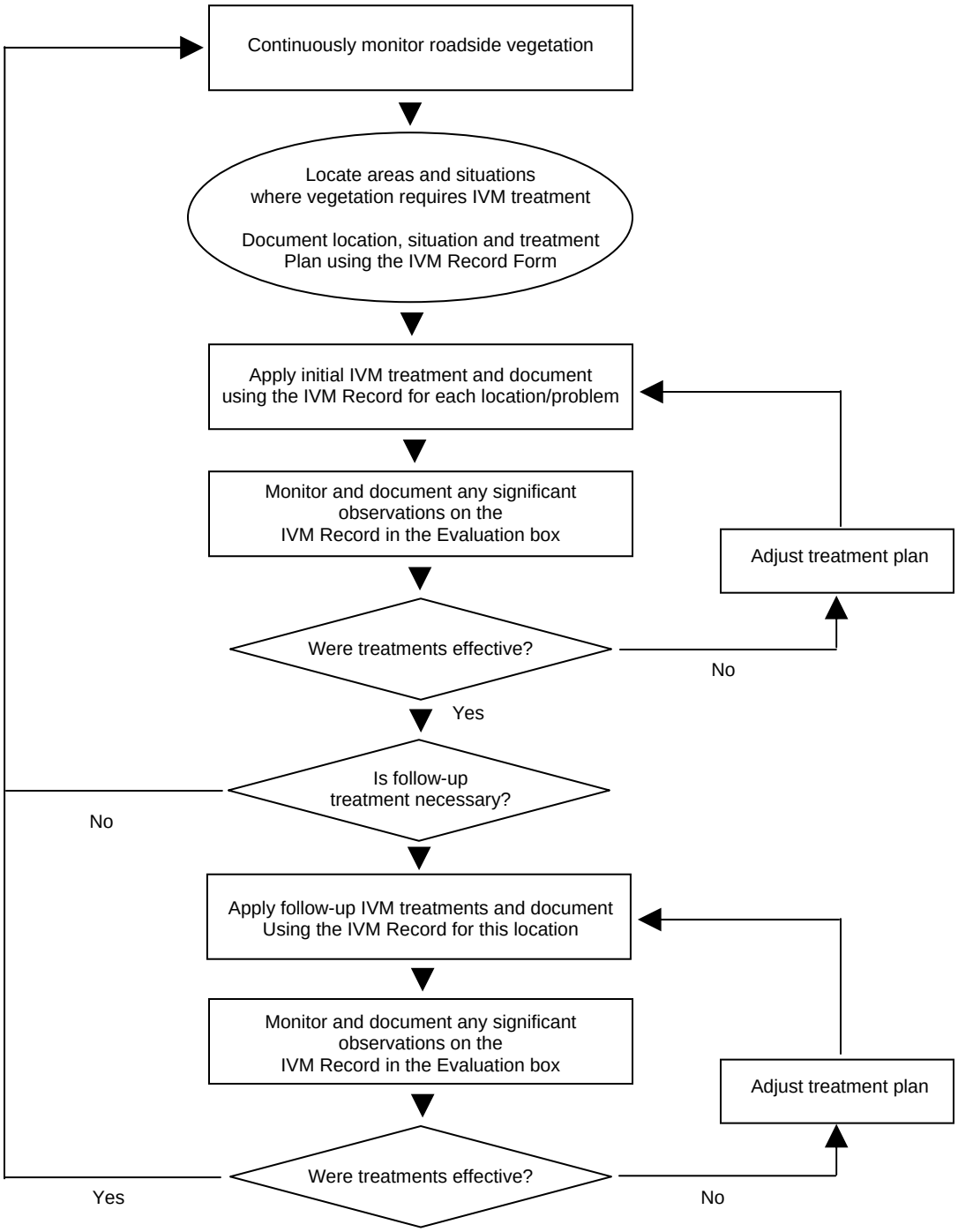
Integrated Vegetation Management Activities – Although all activities are to be planned and conducted in accordance with the principles of IVM, many vegetation maintenance activities are intended to target a specific type or types of unwanted plants. By carefully planning and precise execution of these target specific activities it is possible over time to establish desirable vegetation, which will prevent the re-infestation of unwanted plants and reduce the need for maintenance over time. The process for determining and carrying out IVM actions is illustrated in **Figure 3** on the following page. This plan document provides information, locations, and gives prescriptions for selective control of weeds and other unwanted vegetation and for the promotion and establishment of desirable vegetation. Further information and guidance on the application of IVM is available in the document Integrated Vegetation Management for Roadsides (WSDOT, July 1997) www.wsdot.wa.gov/maintenance/pdf/IVM.pdf

Special Maintenance Areas – In some locations there are unique situations that require special consideration in determining appropriate vegetation maintenance actions. Examples of these are: environmentally sensitive areas, areas with special neighbor concerns, areas where a higher level of maintenance is expected such as gateway interchanges or formally landscaped areas, or along highways that cross tribal or federal lands. This plan provides information and guidance on the locations and unique requirements or restrictions on maintenance activities in all of these situations throughout the area.

Herbicide Use – WSDOT has conducted independent research on herbicide risk from toxicity and environmental fate, based specifically on agency application methods and use rates. Findings from this research have been used to establish an approved palette of herbicides and application limits for state highways. A complete summary of herbicides approved for use on WSDOT rights of way is included in **Appendix B**.



Typical Roadside Vegetation Management Zones
Figure 2



The IVM Decision-Making Process
Figure 3

Area IVM Goals

The purpose of this section is to identify the highest priority work activities for roadside vegetation management in Olympic Region, Area 2 in relation to Maintenance Accountability Process (MAP) activity groups and specified service level targets. In addition to the mowing and Zone 1 maintenance activities routinely accomplished on an annual basis in the area, these goals are intended to serve as a work plan for crews. Priorities are listed by specific activities and locations in relation to the three major MAP groups for roadside vegetation maintenance performance: Control of Vegetative Obstructions, Noxious Weed Control, and Nuisance Weed Control. This section of the plan is intended to supplement the information in the following section, ***Olympic Region, Area 2 – Roadside Vegetation Management Plan*** which details the guidelines and methods for accomplishing the work of roadside vegetation management.

Control of Vegetative Obstructions

Since the work of this group of maintenance activities relates to the safety and operation of the highway, these items are considered first priority in terms of the overall roadside maintenance priority. The primary activities for control of obstructions are annual mowing and trimming along the edges of all highway pavements, and applying herbicides to control vegetation around guardrail and maintain vegetation-free strips as designated in Appendix C. Beyond this, activities and locations of greatest need include:

- Expand the mowing of Vegetation obstructions throughout the area to increase site distance where needed throughout the area.

SHELTON SECTION

- Mow beyond one pass for brush control and sight distance SR 3 mp 26-mp 34
- Mow beyond one pass for brush control and sight distance SR 3 mp 54 to mp 60
- Mow beyond one pass for brush control and sight distance SR 302 mp 6.5 to mp 16.5
- Mow beyond one pass for brush control and sight distance SR 160 mp 2.6 to mp 7.5
- Mow beyond one pass for brush control and sight distance SR 104 mp 16 to mp mp 24
- Mow beyond one pass for brush control and sight distance SR 307 mp 0 to mp 5.3
- Mow beyond one pass for brush control and sight distance SR 305 mp 0 to mp 13.5
- Mow beyond one pass for brush control and sight distance SR 308 mp 0 to mp 3.4
- Mow beyond one pass for brush control and sight distance SR 300 mp 0 to mp 3.0
- Remove danger trees as necessary, do an inspection in early fall for all routes.
- We will be trimming trees on SR 3 from MP 8 to 9 and removing some hazard trees through this area.
- We will be trimming trees from MP 5 to 6 and removal of hazard trees in this area, to keep Alders from getting to big causing small slides on SR 106.
- Would like to do a lot of tree trimming on SR 119 in many spots starting at MP 3 to 5, then MP 6 to 7. Limbs hanging over road starting to make large canopy.

PORT ORCHARD SECTION

- SR 3 remove alder trees for site distance Finn Hill off ramp north bound.
- SR 307 remove leaning alder trees MP .5 to MP 1.3
- SR 160 remove canopy MP 5 0 MP 7
- SR 16 MP26.3 to MP 28
- SR 16 MP21.5 and MP 15 remove dead trees
- Remove alder trees and blackberries gore area SR 16 & 166

- Remove alder trees SR3 MP 41 to MP 45
- Remove danger trees SR 3 MP 37 to MP 45.6
- Remove alder trees from on and off ramps 3/305 interchange.
- Remove alders SR 3 MP 47.3 to MP 45.3
- Remove alder trees from Trigger on ramp south bound SR 3 and Trigger on ramp north bound.
- Remove alder trees from intersection 307 /305 to SR 3 interchange.
- Remove brush and small trees growing in planted area of median SR 3 MP 45.3 to MP 50.

Noxious Weed Control

Noxious weeds are those species legally designated by state and county regulations for required control by all property owners. Because laws provide for fines and/or control work and billing of property owners by county administration, work under this group is considered second priority after critical safety related locations have been addressed. The majority of noxious weed control activities are conducted by crews patrolling the roadsides and treating visible weeds as they emerge each year, or in response to County weed board notices. In addition to this work, actions and locations designated as focus areas for eradication over the next several years due to reoccurring infestations include:

SHELTON SECTION

SR 101

- We will target noxious weeds from MP 360 to 295 starting in early May if weather allows. We will mainly target Tansy Ragwort, Japanese Knotweed and we will use Garlon 3A, at a rate that is recommend on Label, with MSO at a rate to 1 to 2 pints per acre.
- We will try and work with Skokomish Indian Reservation to take care of noxious weeds on SR 101 that are on Tribal land, working with their Department of Natural Resources.

SR 3

- We will target noxious weeds from MP 7 to 25 starting in early May if weather allows. Target where we mowed in the summer of 2006; the applications will be in only in a few spots where most was treated in 2006. We will target mainly on Tansy Ragwort, and Japanese Knotweed we will treat as described on SR 101

SR 106

- This is going be one of our main area's where focus a lot attention to this year. Our plan on SR 106 is to do a lot of spot spraying using back packs. We will target noxious weeds from MP 2 to 20. Our main target on SR 106 will be Tansy Ragwort, and Japanese Knotweed which is starting to get out of control, due to past mowing practices. We will start in early May if weather allows. We will look at the use of injecting the stems of Japanese Knotweed using Round up Pro. And Garlon 3A for Tansy Ragwort.(This year we will retreat areas that where treated in 2007

SR 119 and SR 102

- We will treat as necessary for noxious weeds on these routes; we have only a hand full of spots with noxious weeds that are small in population.

PORT ORCHARD SECTION

- Treat noxious weeds poison hemlock and tansy along SR 305 Bainbridge Island MP 0.27 to MP 6.8.
- Treat noxious weeds SR 3 MP 35 to MP 36.
- Inject Japanese knotweed SR 300 MP 0 to MP 3. Also on SR 166 MP 1 to MP 2.3.
- Spray tansy SR 16 MP 8.5 to MP 29.
- Re-evaluate and treat knotweed SR 302 as needed.

Nuisance Vegetation Control
Nuisance vegetation control includes control/management of weed species that are recommended but not mandated, by state and county law. It also includes work such as mowing of grass and weeds in areas where a more neatly maintained appearance is desired such as in gateway interchanges or highways in urbanized areas. Because nuisance vegetation control is lower priority after safety related and legally mandated activities, the location and work actions listed below may be postponed depending on availability of resources.

SHELTON SECTION

US 101
- We will target some of our larger infestations on SR 101 from MP 360 to 295. We will target mainly on Thistles, Blackberry, Scotch Broom, We will make our applications in late summer and early fall. Scotch Broom will be mowed first then treated with Garlon 3A

SR 106
- For nuisance weeds our plan is where we mow on SR 106 at the end of each day of mowing, is to save time where crew can spot spray areas of concern that where mowed, spots such as Scotch Broom, Blackberry, and Thistles are present and are very dominant. How ever this will be time consuming but we don't have many options on SR 106. We will treat with Garlon 3A, and MSO. As recommend on the label.

SR 3
- We will spot spray nuisance weeds from MP 7 to 25 where we mowed in the summer of 2006; to keep what we have maintained this should only be in a few areas that have started to re-grow. We will treat with Garlon 3A and MSO as described on SR 101. Treatment would be in late summer and early fall.

PORT ORCHARD SECTION

- Follow up with herbicide treatments on Scotch broom re-growth in mowed last year along SR 16 and SR 3.
- Pre-emergent treatments will be made for weed control on the restoration landscaping along SR 16 between 36th street and the TNB.

1. ROUTINE MAINTENANCE ACTIVITIES

Roadside maintenance activities are considered routine when regular annual treatment is required because vegetative growth annually or regularly exceeds action thresholds. Typical routine maintenance activities are maintenance of Zone 1 and certain types of mowing and trimming.

1.1. Maintenance of a Vegetation-Free Zone at the Edge of Pavement

Over the past several years WSDOT has been conducting a formal research project to evaluate long-term benefit/cost resulting from alternative approaches for maintenance of vegetation at the edge of pavement. Past policy and practice will be refined over the coming years in response to findings from this study. For the 2009 growing season, vegetation at the edge of pavement will be managed as follows on roadsides in Olympic Region, Area 2:

1.1.1. Guidelines

- A vegetation-free zone at the edge of pavement is referred to as Zone 1
- In Olympic Region, Area 2, Zone 1 is not maintained along designated sections of highways due to environmental sensitivity, including all of SR 106, portions of SR 101 along the Hood Canal, and SR 305 on Bainbridge Island. Along 106 and 101 these sections Zone 1 will only be maintained under guardrail with the use of a non-selective, post-emergent herbicide labeled for aquatic applications. On Bainbridge, grass will be allowed to grow under guardrail and broad-leaf weeds and brush be managed in these locations with selective herbicides.
- If no vegetation-free zone is maintained in a given location, then Zone 2 begins at the edge of pavement.
- Annual Zone 1 treatments are intended to remove all vegetation growth in a solid band adjacent to the pavement edge. Limited re-growth of grasses and other non-weed species in the year following each treatment is acceptable in some cases.
- Zone 1 is maintained with the annual application of herbicides under all guardrail installations and throughout the area.

1.1.2 Methods

- Zone 1 is maintained using an annual application of non-selective, post-emergent herbicides
- Applications typically occur beginning mid-May depending on weather patterns and plant growth.
- Pavement edges will be monitored for surface drainage problems resulting from sod build-up and will be graded in select locations as necessary to allow storm water flow off the roadway surface.
- See **Appendix A, Routine Maintenance Prescriptions, Zone 1 Maintenance**

1.1.3 Locations

- Zone 1 is maintained only under guardrail in this area as shown in **Appendix C, Zone 1 Map**

1.2. Routine Mowing/Trimming

1.2.1. Guidelines

- Single pass mowing is conducted at least once per year on all shoulders where Zone 1 is not maintained.

- Annual mowing or trimming beyond one pass is also conducted as needed for locations on all highways to preserve site distance at curves, intersections and any other highway entry points.
- In all other areas mowing is only used occasionally as part of IVM treatments for weed and brush control as described below in **Section 2**.

1.2.2. Methods

Mowing

- Timing and mowing heights are set to encourage root development and health of the grass stands.
- Single pass mowing consists of one pass up to the maximum width of mowing equipment but may be as narrow as practical depending on mowing equipment, the presence of existing visual lines such as ditches, and the configuration of roadside cut and fill slopes.

Trimming

- Whenever possible, side arm brush trimming will be conducted as late in the season as possible or over winter months if time allows, to avoid negative visual impacts during the tourist season. Early trimming in late winter or early spring, prior to leaf out is appropriate when soil and weather conditions permit.
- Chemical control methods on evergreen trees or foliar applications to other undesirable vegetation will occur after mid September to avoid brown outs and potential contact with edible berries.
- See **Appendix A, Routine Maintenance Prescriptions, Zone 2 Maintenance**

1.2.3. Locations by Milepost

- **Appendix D, Routine Mowing Map** shows locations where routine annual mowing occurs in non-Zone 1 areas and where sections of limited access divided highway are routinely mowed out across medians and/or to fence or tree lines on outside shoulders.
- **Appendix D, Routine Mowing Plan** explains the details of timing and extents of mowing limits on limited access highways and interchanges.
- Locations routinely mowed for site distance and sign visibility exist throughout the area and locations will be determined as needed in the field.

1.3. Hazard Tree Removal and Prevention

1.3.1. Guidelines

- Hazard tree removal is considered a routine maintenance activity because maintenance is constantly on the look out for any trees that pose an imminent threat to the highway or traffic.
- Whenever hazard trees are identified they are routinely removed as soon as possible.
- Hazard trees may be dead, leaning, or structurally unsound. Best horticultural judgment will be used in evaluating trees that appear diseased or structurally unsound or are believed to pose a long-term threat to determine the best course of action.
- Another consideration in removal of trees is the contribution to shading in areas prone to frost and ice formation on the highway surface. When such areas are identified, the surrounding canopy may be thinned through selective removal of large trees on the right of way.
- In some cases trees threatening the highway may be growing on neighboring property. In these cases WSDOT has the legal right to remove the trees after informing and consulting with the neighboring property owner.

1.3.2. Methods

- Hazard trees are removed in such a manner to minimize damage and impact to the highway structure and to other healthy trees and under-story vegetation.

2. INTEGRATED VEGETATION MANAGEMENT ACTIVITIES

For all vegetation management needs not addressed through routine maintenance as described above, activities are planned and carried out using the principles of Integrated Vegetation Management (IVM) and the decision making process diagrammed on Page 5 in **Figure 3**. IVM is a coordinated decision making process that uses the most appropriate vegetation management methods and strategy, along with a monitoring and evaluation system, to achieve long term roadside maintenance goals and objectives in an environmentally and economically sound manner. The goal in utilizing the IVM approach is the effective control of unwanted vegetation and the establishment of stable, low maintenance native or naturalized plant communities that are compatible with:

- Highway maintenance and safety objectives.
- Preservation of environmental quality.
- Weed control requirements.
- The concern's of WSDOT's customers and neighbors.

Long term, the use of the IVM approach can reduce the intensity and cost of maintenance, as well as minimizing the need to use herbicides.

2.1. Integrated Vegetation Management Planning and Tracking Database

2.1.1. Guidelines

- An Integrated Vegetation Management Records database is available for use. This database is accessed through the same WSDOT network application as the Pesticide Application Records database.
- Any activities focused on treatment of a specific location and species infestation, or focused on treatment of any types of unwanted vegetation throughout the area will be documented with an initial IVM record outlining the long-term treatment plan. These same records will be updated over time whenever planned treatments are carried out, or when observations are made as to the success or failure of past treatments.
- Treatment records may be printed out and inserted into **Appendix G** of plan binders for reference.

2.1.2. Sample forms

- A copy of the Integrated Vegetation Management Record is included in **Appendix G, Forms and Records**.

2.1.3. Instructions for use

- Maintenance supervisors and technicians can access the IVM Record through the existing Pesticide Application Record Keeping system available over the computer network from the area office or maintenance sheds.

2.2. Noxious Weed Control

2.2.1. Guidelines

- As defined by RCW 17.10, all property owners including state agencies, are Noxious weed control is a high priority for WSDOT because of state law requiring control of designated species. Transportation rights of way are high priority locations for control of noxious weed species within the state because they cross and link so many adjacent properties and land uses.
- Whenever possible treatment of designated noxious weed species and infestations locations will be documented and treated following plans as defined by IVM record forms in the database.
- Washington State Law classifies noxious weeds in three classes: A, B, and C. All Class A species require eradication wherever they occur statewide. The law allows for individual county weed boards to designate individual Class B and C

weeds for control (preventing seed production and spread) within the counties depending on how widespread and potentially harmful they are at the local level.

- For the purposes of this plan, the term "noxious weed" is used for any species legally designated or prioritized by the weed boards for control on state highway rights of way within the counties managed by this area.

Class A

Class A noxious weeds are non-native species with a limited distribution in the state. There is one Class A species found on the right of way in Olympic Region, Area 2, along US 101 on the Skokomish Reservation:

Common Name/*Botanical Name*
Giant hogweed/*Heracleum mantegazzianum*

Class B

Class B weeds are more widespread than Class A, with control mandated by law only if infestations are generally limited and the species are designated within the individual counties by the County Noxious Weed Control Boards. Olympic Region, Area 2 boundaries include highways in Kitsap and Mason Counties. The area also includes a portion of US 101 in Jefferson County in the north and several miles of SR 16 and 302 in Pierce County on the south. Designated control species known to exist on the right of way in Area 2 and designated as noxious weeds in this plan by county are described in the following table:

Common Name/Botanical Name	***Kitsap***	***Pierce***	***Jefferson***	***Mason***
Butterfly bush/*Buddleha davidii*	◆	◆	◆	
Knotweed sp./*Polygonumi sp.*	◆			
Knapweed sp./*Centaurea sp.*	◆		◆	◆
Poison hemlock/*Conium maculatum*	◆		◆	
Tansy ragwort/*Senecio jacobaea*	◆	◆	◆	◆
Wild chervil/*Anthriscus sylvestris*				◆
Yellow Hawkweed/*Hieracium C.*		◆	◆	◆

Species listed above as designates in some counties but not others will be given highest priority for control as nuisance weeds as described in the following section for neighboring counties where they are not designated.

Class C

Class C noxious weeds are widely established throughout Washington and/ or may impact the agricultural industry. Counties may require control of certain Class C weeds at their own discretion but none of the counties in Olympic Region, Area 2 have done so. Unless designated by the county weed boards for required control, WSDOT uses the term "nuisance weeds" Class C species. Nuisance weeds and treatment options are described in Section 2.4 of this document.

- Pictures of designated control noxious weeds are included for reference in **Appendix E**.

2.2.2. Methods

- Because noxious weed species are often difficult to control, herbicides treatments are often the primary, initial means of control.
- If infestations are limited to a few plants, hand pulling is also effective when the entire root system is also removed. Maintenance employees are encouraged to be aware of and look for new noxious weed occurrences, and to stop and pull these plants whenever possible.

- In conjunction with weed control treatments, a variety of other measures may be taken to promote natural vegetative competition through seeding, planting, and soil enhancement. The IVM Record and database are essential to tracking the execution and success of these control measures.
- For recommended treatments specific to noxious weed species, see **Appendix A, IVM Prescriptions, Noxious Weed Control**

2.2.3. Locations

- **Appendix E, Noxious Weed Location Map** shows locations where the most critical reoccurring infestations of noxious species exist in Olympic Region, Area 2. There are a number of noxious weed locations not currently mapped, the list of locations will be added to and updated annually.

2.3. Nuisance Weed Control

2.3.1. Guidelines

- For the purposes of this plan, nuisance weed species are defined as species listed as Class B and C weeds on the state noxious weed lists, but not required for control within individual counties.
- Nuisance weed control, while not required by state law, provides many positive benefits to the overall condition of the roadside, enhances ecological function by maintaining and enhancing native plant communities, reduces the potential for continuing spread of weed infestations, and enhances visual quality.
- Nuisance weed species will be controlled when time and budget allows.
- Priority will be given to locations with the highest chance for success including relatively new infestations and where there is potential for infestations to spread to un-infested areas of the right of way or to un-infested neighboring properties.
- Species listed above as designates in some counties but not others will be given highest priority for control as nuisance weeds in neighboring counties where they are not designated.
- Species designated as nuisance weeds in Olympic Region, Area 2 that are known to exist on the highway right of way include:

Common Name/Botanical Name
Himalayan blackberry/Rubus discolor
Scotch broom/Cytisus scoparius
Common tansy/Tanacetum vulgare
St. Johnswort/Hypericum perforatum
Common mullein/Verbascum thapsus
Bull Tthistle/Cirsium vulgare
Canada thistle/Cirsium arvense
Musk thistle/Carduus nutans
Knotweed sp./Polygonum sp.

- Pictures of nuisance weeds are included for reference in **Appendix E**.

2.3.2. Methods

- Control measures for nuisance weed are dependent on the type of plant.
- Woody species such as Scotch broom and Himalayan blackberry are most effectively treated with a combination of cutting, herbicide treatments and encouragement of native vegetation.
- Perennial species such as Canada thistle are most effective controlled by succeeding years of properly timed herbicide applications.
- Annual or biennial species such as bull thistle and common tansy may also be effectively controlled with herbicide applications when plants are in the rosette stage in spring, or by hand pulling prior to seed set.
- See **Appendix A, IVM Prescriptions, Nuisance Weed Control**.

2.3.3. Locations

- Locations for nuisance weed control activities will be identified in the **Area IVM Goals** section of the plan beginning on Page 8.

2.4. Tree and Brush Control

2.4.1. Guidelines

- Trees and brush are controlled for safety reasons including preservation of sight distance at curves and intersections, and for visibility of signs, and preventing trees with large trunk diameter from growing too close to traffic lanes.
- Native shrub and small tree species should be allowed to grow and mature in Zone 2 and selectively trimmed if they begin to encroach on site distance or other traffic operational requirements.
- Large tree species left to grow in Zone 2 and in some cases parts of Zone 3, can reach substantial size over a relatively short period of time and causing a hazard either to errant vehicle recovery, contributing to shading and winter ice formation.
- Fast-growing pioneer species such as big leaf maple, alder, or cottonwood, present a risk from falling on the road when mature. Wherever these trees emerge within 70' of the pavement on highway right of way, they should be removed within the first two to three years of growth or as soon as possible.
- Any tree with a trunk diameter of 4" or greater is considered a hazard for errant vehicles in Zone 2 and should be removed when young. The Design Clear Zone and is typically maintained to a width of 30' from the traffic lane edge where guardrail or concrete barrier does not exist. Actual minimum widths are determined by roadway alignment, traffic speed and volume, and cross-section of the roadside. Clear Zone widths are specified in the WSDOT Design Manual, Chapter 700.04.
  www.wsdot.wa.gov/fasc/EngineeringPublications/Manuals/DesignManual.pdf

2.4.2. Methods

- Removal of undesirable tree and brush species is typically accomplished by properly timed selective mowing, properly timed herbicide applications, hand cutting, hand pulling, or combinations thereof.
- In some locations it is most effective to mow back the majority of the existing vegetation and then selectively treat undesirable re-growth with herbicides in succeeding years, allowing desirable vegetation to grow up around and form a competitive cover.
- In some cases when tree and brush species are cut by hand, the debris can be fed through a chipper and placed back on the roadside in the form of mulch for soil enhancement and weed prevention.
- Timing of activities has a significant effect on how the vegetation grows back. Herbicide applications made by hand, directly to the cut surfaces of undesirable plants may be used to reduce or eliminate grow back.

- Chemical control methods will not be used on conifers greater than 2 feet in height and/or large dense patches of seedling trees, to avoid unnecessary negative visual impacts from “brown-out”.
- Chemical control methods will not be used on deciduous trees and shrubs until after the first of September, except for as stump treatments in conjunction with mechanical cutting to eliminate grow-back.
- When possible, safe and practical, seedling of desirable trees may be dug or pulled by hand and transplanted to areas where there growth will be beneficial and appropriate. Agreements may be signed to allow private citizens to collect seedlings for use as transplants.
- See **Appendix A, IVM Prescriptions, Tree and Brush Control**.

3. SPECIAL MAINTENANCE AREAS

Special Maintenance Areas are any locations with unique maintenance requirements or special considerations for roadside management. These areas may include interchanges, community entrances or enhancement areas, areas maintained by cities, bicycle paths, storm water retention ponds, state park land, wellheads, environmentally sensitive areas, school zones and roadsides adjacent to individual properties with current or annual no-spray agreements.

3.1. Interchanges/Intersections

3.1.1. Guidelines

- Interchange areas are sometimes developed to a greater level than general roadside areas to include storm water management facilities, pedestrian areas, and permanent vegetation designed for screening, and visual enhancements for community entrances.

3.1.2. Locations

- Maintenance considerations for all interchanges and key intersections are listed in **Appendix F**, along with notes describing practices for each location.

3.2. City Maintenance Areas

3.2.1. Guidelines

- In most cases where non-limited access highways exist within city limits, the roadside (all area outside the highway pavement and drainage systems) are maintained by the local city government.

3.2.2. Locations

- Areas where roadsides are maintained by cities are listed by route and begin and end milepost in **Appendix F.**

3.3. Herbicide Sensitive Areas

3.3.1. Guidelines

- WSDOT has identified certain areas where herbicide use will be limited to reduce any potential risk to human health or the environment. In these areas, no residual herbicide will be applied to the shoulders and grasses will be allowed to establish to the edge of pavement.
- Herbicide applications made for noxious or nuisance weed control, or in combination with mechanical methods for control of undesirable trees will be made selectively by hand.

3.3.2. Locations by Milepost

- See **Appendix F**, Special Maintenance Areas, Herbicide Sensitive Areas

3.4. Adopt-a-Highway and Owner Will Maintain Agreements

3.4.1. Guidelines

- In some locations WSDOT has signed agreements with private citizens or neighboring businesses for maintenance of roadside vegetation.

3.4.2. Locations

- Areas with existing agreements for others to maintain a portion of the roadside are listed in **Appendix F**, along with notes describing arrangements for each location.

3.5. Pit Sites and Stockpile Sites

WSDOT pit sites are often actively used for construction projects over an extended period of time and as maintenance stockpile sites. Other maintenance stockpile sites area found adjacent to the highway that are used to temporarily store maintenance sand, debris cleared from the roadway, and drainage components.

3.5.1. Guidelines

- Pit sites and maintenance stockpile sites will be managed for noxious and nuisance weeds as required.
- Maintenance stockpile sites immediately adjacent to the highway will be maintained as part of routine Zone 2 maintenance.
- For security and visual quality, vegetative screening will be used where possible to screen maintenance stockpile sites from the highway.

3.5.2. Locations

- See **Appendix F**, Special Maintenance Areas, Pit and Stockpile Sites

3.6. Storm Water Management Facilities

3.6.1. Guidelines

- Storm water management facilities include bio-filtration swales, retention ponds and infiltration ponds.
- Storm water management facilities are managed for noxious and nuisance weeds, and hazard trees following the same guidelines mentioned in previous sections. The primary objectives with regards to vegetation management within these facilities are maintenance of the functionality in terms of the designed volume of retention and water flow, and the maintenance of the surrounding fence
- Trees and brush should be cleared along both sides of the perimeter fencing for a width of approximately 8 feet as needed.
- Inlets and outfalls should be kept clear of vegetation and debris.

3.6.2. Locations

- Stormwater management facilities are listed by route and milepost in **Appendix F**.

3.7. Wetland Mitigation Sites

3.7.1. Guidelines

- Wetland mitigation sites are carefully monitored through WSDOT's Environmental Services Office for up to 10 years following their creation to ensure compliance with environmental regulation.
- In most cases vegetation in these sites is planted and established through the construction and long-term monitoring process so that once they are turned over to maintenance, actions are not required unless noxious weeds or hazardous trees become an issue.
- In cases where mitigation sites have fulfilled their original permit requirements and have been turned back to maintenance, sites should be inspected on an annual basis to determine if any repairs or weed control is necessary.

3.7.2. Locations

- All wetland mitigation sites within Olympic Region, Area 2 are listed by the nearest route and milepost, and the year scheduled for turnover to maintenance, in **Appendix F**.

3.8. IVM Treatment Sites

3.8.1. Guidelines

- As discussed in **Section 2.1**, selected sites are designated for planning, carrying out and monitoring multi-year IVM treatments for control of weeds or other unwanted vegetation.
- IVM treatment sites are documented with an initial record in the IVM Treatment Database, to identify the problem to be addressed, location(s), management goals, and integrated treatment plan.
- Records are updated each time a treatment is made, results observed, or when the treatment plan is modified based on observations.

3.8.2. Locations

- All designated IVM treatment sites within Olympic Region, Area 2 are listed by the route and milepost in **Appendix F**. This list is updated annually as new sites may be added and successfully treated sites removed.

Zone 1 Maintenance - Bareground Treatment

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Gravel shoulder	Gravel shoulder	Gravel shoulder	Gravel shoulder
MANAGEMENT GOALS:	Vegetation free	Vegetation free	Vegetation free	Vegetation free
METHOD:	Annual herbicide application	Annual herbicide application	Annual herbicide application	Annual herbicide application
EQUIPMENT:	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles
MATERIALS:	Payload 8 oz./acre + Oust 3 oz./acre	Milestone VM 7 oz./acre + Round Up Pro 64 oz./acre	Round Up Pro 64-128 oz./acre	Landmark 4.5-7 oz./acre + Razor Pro 64 oz./acre
TIMING:	Early Spring or Fall	Early Spring	Early to mid June	Early Spring
IVM FOLLOW-UP:	Evaluate control	Evaluate control	Evaluate control	Evaluate control
REMARKS:	Typically applied in a 2 to 3 ft. band.			

Zone 2 Maintenance - Tree and Brush

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Conifer control	Deciduous tree and brush	Deciduous tree and brush	Deciduous tree and brush
MANAGEMENT GOALS:	Control vegetation obstruction	Control vegetation obstruction	Control vegetation obstruction	Control vegetation obstruction
METHOD:	Herbicide treatment	Herbicide treatment	Herbicide treatment	Stump Treatment
EQUIPMENT:	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Spray truck w/ banned width nozzles	Dobber or Spray bottle
MATERIALS:	Garlon 3A 128 oz. and Escort 1 oz.	Milestone VM 5-7 oz. plus Garlon 3A 64 oz.	Krenite S	Garlon 3A 50/50 with water or suf. Garlon 4 50/50 with water or suf.
TIMING:	Late summer, early fall	Late summer, early fall	Late summer before leaf turn	Anytime
IVM FOLLOW-UP:	Evaluate control	Evaluate control	Evaluate control	Evaluate control
REMARKS:	Avoid brown out by spraying late in the season and spray only to appropriate height.			

Noxious Weed Control - Giant Hogweed

	OPTION 1			
TREATMENT TYPE:	Chemical application			
ACTION THRESHOLD:	Whever present (dependent on available resources)			
MANAGEMENT GOALS:	Eradication of noxious weed			
METHOD:	Spot treatment w/ heribicde			
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.			
MATERIALS:	Round Up 64 oz./acre			
TIMING:	Early growth stage			
IVM FOLLOW-UP:	Reapply if necessary following year. Restore site w/ native vegetation.			
REMARKS:				

Noxious Weed Control - Butterfly Bush

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	
ACTION THRESHOLD:	Whever present	Whever present	Whever present	
MANAGEMENT GOALS:	Eradication	Eradication	Eradication	
METHOD:	Cut Stump	Broadcast spray	Broadcast spray	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Power Spray	Power Spray	
MATERIALS:	Garlon 4 50/50 with MSO	Garlon 3A 64 oz./acre	Crossbow 64 oz./acre	
TIMING:	Late season	Early season to Mid season	Early season to Mid season	
IVM FOLLOW-UP:	Re-cut/treat as necessary.	Reapply if needed	Reapply if needed	
REMARKS:				

Noxious Weed Control - Knotweed sp.

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Stem injection		
ACTION THRESHOLD:	Whever present (dependent on available resources)	Smaller infestations and or near water		
MANAGEMENT GOALS:	Eradication and control only if your county requires.	Eradication and control only if your county requires.		
METHOD:	Spot treatment w/ heribicde	Stem injection w/ herbicide		
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Injection equipment		
MATERIALS:	Habitat/MSO 0.5-1 lbs. per acre	Concentrated Roundup at 2%		
TIMING:	Early to late bloom between July and August	Once seasonal growth has occurred		
IVM FOLLOW-UP:	Reapply if necessary following year. Restore site w/ native vegetation.	Re-treat green stems as necessary. Restore site w/ native vegetation		
REMARKS:				

Noxious Weed Control - Knapweed sp.

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application	Manual	
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.		
MANAGEMENT GOALS:	Eradication and control if required by your county.	Eradication and control if required by your county.	Eradication and control if required by your county.	
METHOD:	Spot treatment w/ herbicide	Spot treatment w/ herbicide is most affective.	Hand removal. Roots must also be removed. Remove plant from site.	
EQUIPMENT:	Tank sprayer where possible, backpack sprayer where necessary	Tank sprayer where possible, backpack sprayer where necessary.	Labor, transporation	
MATERIALS:	Milestone 5 to 7 oz./acre	Transline .66 to 1.33 pints/acre	none required	
TIMING:	Early budding stages	Early budding stages	Early budding stages	
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertlize to reduce weed competition.	Reapply as necessary. Seed and fertlize to reduce weed competition.	Repeat as necessary. Seed and fertlize to reduce weed competition.	
REMARKS:				

Noxious Weed Control - Poison Hemlock

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Hand removal	Chemical application	Chemical application
ACTION THRESHOLD:	When plants appear	When plants appear	When plants appear	When plants appear
MANAGEMENT GOALS:	Eradication and control of listed noxious weeds.	Eradication and control of listed noxious weeds.	Eradication and control of listed noxious weeds.	Eradication and control of listed noxious weeds.
METHOD:	Spot treatment w/ herbicide	Hand removal. Remove plant from site	Spot treatment w/ herbicide	Spot treatment w/ herbicide
EQUIPMENT:	Backpack sprayer, pickup etc.	Labor, transporation	Backpack sprayer, pickup etc.	Backpack sprayer, pickup etc.
MATERIALS:	Telar 1 to 3 oz.	None required	Excort 1 to 2 oz./Phase	1 -2 percent per acre Glyphosate
TIMING:	Spray by April	Pull by Arpil	Apply to actively growing plan	Treat at bud to full bloom stage of growth
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize to reduce weed competition.	Repeat as necessary. Seed and fertlize to reduce weed competition.	Repply as necessary	Reapply as necessary
REMARKS:	Use a nonionic surfactant or silicone surfactant			

Noxious Weed Control - Tansy Ragwort

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Manual	Bio-Control
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.	As soon as plants appear.	
MANAGEMENT GOALS:	Eradication and control if required by county.	Eradication and control if required by county.	Eradication and control if required by county.	Eradication and control if required by county.
METHOD:	Spot treatment w/herbicide	Spot treatment w/herbicide	Hand removal. May include cut stem.	
EQUIPMENT:	Tank spayer where possible, backpack spayer where necessary.	Tank spayer where possible, backpack spayer where necessary.		
MATERIALS:	Escort 1/2 to 1 oz./acre	Milestone VM 5 to 7 oz./acre	None required. Round -up in spray bottle for cut stem.	Flea beetle/Cinebar Moth
TIMING:	Spray by May	Spray by June	Pull by June	
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertlize to reduce weed competition.	Reapply as necessary. Seed and fertlize to reduce weed competition.	Repeat as necessary. Seed and fertlize to reduce weed competition.	
REMARKS:				

Noxious Weed Control - Wild Chervil

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Chemical application		
ACTION THRESHOLD:	As soon as plants appear.	As soon as plants appear.		
MANAGEMENT GOALS:	Eradication and control of noxious weeds.	Eradication and control of noxious weeds.		
METHOD:	Spot treatment w/ herbicide.	Spot treatment w/ herbicide.		
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer	Truck mounted sprayer where possible, backpack sprayer		
MATERIALS:	2 oz./acre Escort and 7oz./acre Milestone VM	1-3 oz./acre Telar DF		
TIMING:	Prebloom April/May	Apply early post emergence to actively growing plants		
IVM FOLLOW-UP:	Repeat as necessary. Seed and fertlize to reduce weed competition.	Repeat as necessary		
REMARKS:	Reportedly, it tolerates 24-D			

Noxious Weed Control - Hawkweed sp.

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Chemical application		
ACTION THRESHOLD:	Apply while actively growing	Apply while actively growing		
MANAGEMENT GOALS:	Eradication of listed noxious weeds.	Eradication of listed noxious weeds.		
METHOD:	Power sprayer	Power sprayer		
EQUIPMENT:	Spray tank	Spray tank		
MATERIALS:	Milestone VM 4 to 6 oz./acre	Transline .66 to 1 pint/acre		
TIMING:	Bolting stage	Bolting stage		
IVM FOLLOW-UP:	Multiple treatment as needed	Multiple treatment as needed		
REMARKS:				

Nuisance Weed Control - Himalayan Blackberry

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Mechanical application		
ACTION THRESHOLD:	Whever present (dependant on resources)	When resources are available.		
MANAGEMENT GOALS:	Control and eradicate if county requires.	Minimize populations and prevent further spead of weed.		
METHOD:	Foliar treatment w/ herbicide	Mechanical control with follow-up cut stump treatment.		
EQUIPMENT:	Truck mounted sprayer where possible, backpack spayer where necessary.	Mower or hand labor, backpack spayer or spray bottle where necessary.		
MATERIALS:	Krenite 1.5-6 gallons/acre	Crossbow 1.25-1.5 gallons/acre		
TIMING:	In the Fall, after berries drop.	After mowing, in the fall.		
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize or plant to restore native plant community	Re-cut/treat as necessary. Seed ,fertilize or plant to restore native community.		
REMARKS:				

Nuisance Weed Control - Scotch broom

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Manual application	Mechanical application	Bio-Control
ACTION THRESHOLD:	Whever new infestations occur (dependant on available resources)	Wherever present (dependant on available resources)	When resources are available.	When ever present
MANAGEMENT GOALS:	Minimize populations and prevent further spread of weed.	Minimize populations and prevent further spread of weeds.	Minimize populations and prevent further spread of nuisance weeds.	Minimize spread
METHOD:	Foliar treatment w/herbicide.	Hand pull	Mechanical control with follow-up cut stump treatment.	Bio-Control
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Weed wrench option, brown brush monitor	Mower, backpack sprayer where necessary.	Truck
MATERIALS:	Garlon 3A at 2 quartz with Escort 2 oz. with Phase per acre	Garlon 4 mix 2 to 1 with crop oil	Garlon 3A at 1 to 1 with water or surfactant	Exapionfuscirostre
TIMING:	Apply during actively growing season	Anytime	After mowing	release when actively growing.
IVM FOLLOW-UP:	Reapply as necessary. Seed and fertilize or plant to restore native plant community.	Reapply as necessary. Seed and fertilize or plant to restore native plant community.	Re-cut/treat as necessary. Seed, fertilize or plant to restore native community.	Evaluate, redeploy if necessary
REMARKS:				

Nuisance Weed Control - Common Tansy

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Whever present	Whever present	Whever present	
ACTION THRESHOLD:	Whever present	Whever present	Whever present	
MANAGEMENT GOALS:	Eradication	Eradiction	Eradiction	
METHOD:	Foliar treatment. Cut stem treatment.	Foliar treatment	Foliar treatment	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Telar 1 to 3 oz./acre	Escort 1 to 2 oz./acre	Milestone VM 3 to 5 oz./acre	
TIMING:	Anytime	Apply to actively growing vegetation in the Spring	Apply to actively growing vegetation in the Spring	
IVM FOLLOW-UP:	Re-cut/treat as necessary.	Retreat as necessary	Retreat as necessary	
REMARKS:				

Nuisance Weed Control - Bull Thistle

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	Bio-Control
ACTION THRESHOLD:	Wherever present	Wherever present	Wherever present	
MANAGEMENT GOALS:	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.
METHOD:	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Bio-Control
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Transline at 2/3 - 1 1/3 pint/acre	Milestone VM 3 to 5 oz. per acre	Telar XP 1-3 oz./acre	Urophora Stylata
TIMING:	Apply from rosette to bud stage to actively growing thistle	Apply to young actively growing weeds.	Apply to young actively growing weeds.	Early growing stage
IVM FOLLOW-UP:	Repeat annually as necessary	Repeat annually as necessary	Repeat annually as necessary	Reapply as necessary
REMARKS:				

Nuisance Weed Control - Canada Thistle

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	Bio-Control
ACTION THRESHOLD:	Wherever present	Wherever present	Wherever present	Wherever present
MANAGEMENT GOALS:	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.
METHOD:	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Transline at 2/3 - 1 1/3 pint/acre	Milestone VM 5-7 oz./acre	Telar XP 1-3 oz./acre	Rhinocyllus Conicus
TIMING:	Apply from rosette to bud stage to actively growing thistle	Pre bud stage	Apply to the bud at bloom stage	Early growing season
IVM FOLLOW-UP:	Repeat annually as necessary	Apply before first frost	Apply before first frost	Redeploy as needed
REMARKS:	For most effective control, apply as a broadcast treatment to the entire infested area.			

Nuisance Weed Control - Musk Thistle

	OPTION 1	OPTION 2	OPTION 3	OPTION 4
TREATMENT TYPE:	Chemical application	Chemical application	Chemical application	Bio-Control
ACTION THRESHOLD:	Wherever present	Wherever present	Wherever present	Wherever present
MANAGEMENT GOALS:	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.	Eradication and control of selected nuisance weeds and brush.
METHOD:	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	Foliar treatment w/ herbicide	
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	Truck mounted sprayer where possible, backpack sprayer where necessary.	
MATERIALS:	Transline at 2/3 - 1 1/3 pint/acre	Milestone VM 3-5 oz./acre	Telar XP 1-3 oz./acre	Rhinocyllus Conicus
TIMING:	Apply from rosette to bud stage to actively growing thistle	Pre bud stage	Apply to the bud at bloom stage	Early growing season
IVM FOLLOW-UP:	Repeat annually as necessary	Apply before first frost	Apply before first frost	Redeploy as needed
REMARKS:	For most effective control, apply as a broadcast treatment to the entire infested area.			

Nuisance Weed Control - Japanese sp.

	OPTION 1	OPTION 2		
TREATMENT TYPE:	Chemical application	Stem injection		
ACTION THRESHOLD:	Whever present (dependent on available resources)	Smaller infestations and or near water		
MANAGEMENT GOALS:	Eradication and control only if your county requires.	Eradication and control only if your county requires.		
METHOD:	Spot treatment w/ heribicde	Stem injection w/ herbicide		
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary.	Injection equipment		
MATERIALS:	Habitat/MSO 0.5-1 lbs. per acre	Concentrated Roundup at 2%		
TIMING:	Early to late bloom between July and August	Once seasonal growth has occurred		
IVM FOLLOW-UP:	Reapply if necessary following year. Restore site w/ native vegetation.	Re-treat green stems as necessary. Restore site w/ native vegetation		
REMARKS:				

Nuisance Weed Control - St. Johnswort

	OPTION 1	OPTION 2	OPTION 3	
TREATMENT TYPE:	Chemical application	Chemical application		
ACTION THRESHOLD:	When resources are available.	When resources are available.		
MANAGEMENT GOALS:	Minimize populations and prevent further spread of nuisance weeds.	Minimize populations and prevent further spread of nuisance weeds.		
METHOD:	Foliar treatment, mechanical.	Foliar treatment, mechanical.		
EQUIPMENT:	Truck mounted sprayer where possible, backpack sprayer where necessary, mower.	Truck mounted sprayer where possible, backpack sprayer where necessary, mower.		
MATERIALS:	Milestone VM 5 to 7 oz./acres	1-2 oz./acre Escort plus Phase		
TIMING:	Apply after weeds emerge	Apply after weeds emerge		
IVM FOLLOW-UP:	Reapply as necessary	Reapply as necessary		
REMARKS:	Repeat application as needed			

Herbicides Approved for Use on WSDOT Rights of Way

When making herbicide applications:
1. Always read and follow product labels
2. Always use personal protective equipment when mixing, loading, and applying

Chemical Name	***Product Name(s)***	***Where Used***	***How/Why Used***	***Notes/Recommendations***	***Restrictions***	***Cautions***
2,4-D	Weedar 64 Amine 4 Veteran 720 Curtail WeedDestroy Platoon Crossbow Escalade Weedmaster Solution Savage Weedone LV4	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Ester and acid formulations of 2,4-D may provide a good alternative to amine formulations. A number of the 2,4-D products come premixed with other herbicides.	Amine formulations of 2,4-D are restricted for use within 60' of all water	Amine formulations cause irreversible eye damage and are highly toxic to rainbow trout. All 2,4-D products pose risks when applied near grapes and other sensitive crops.
Bromacil	Krovar 1 DF Hyvar	Zone 1	Nonselective pre-emergent grass and weed control	Krovar and Hyvar are premixed with diuron	Westside - Restricted for use Eastside - Krovar restricted for use within 60' of all water	Bromacil is potentially mobile in soil, use caution if rain is possible.
Bromoxynil	Buctril 2EC BroClean Brox 2E	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Effective broadleaf weed control without grass seed suppression	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly toxic to fresh water fish
Chlorsulfuron	Telar XP Landmark XP	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Product highly effective on Canadian thistle and horsetail. Landmark is premixed with Oust.	None	None
Clopyralid	Transline Curtail Pathfinder	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Curtail is premixed with 2,4-D, Pathfinder is premixed with triclopyr	Curtail and Pathfinder are restricted for use within 60' of all water because of mixture with other restricted herbicides.	Curtail contains 2,4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout
Dicamba	Vanquish Veteran 720	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Vanquish is the dicamba formulation without 2,4-D	Veteran 720 is restricted for use within 60' of all water because of 2,4-D amine content	Veteran 720 contains 2-4-D amine which causes irreversible eye damage and is highly toxic to rainbow trout
Dichlobenil	Norosac 4G Casoron	Ornamental planting beds	Pre-emergent weed control in ground cover beds. Post emergent control of grasses.	Highly effective for pre-emergent control of unwanted weeds in ornamentals	Restricted for use within 60' of all water	Dichlobenil is highly toxic to aquatic insects
Diflufenzopyr	Overdrive	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	None	None	None
Diuron	Karmex Diuron 4 L Diuron 80 DF	Zone 1	Nonselective pre-emergent grass and weed control	Cost effective weed control for Zone 1 in Eastern Washington	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly toxic to fish.
Flumioxazin	Payload	Zone 1	Nonselective pre-emergent grass and weed control	Second year of use in zone 1, still evaluating	Restricted for use within 60' of all salt water	Highly toxic to estuarine invertebrates
Fluroxypyr	Vista	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	None	None	Highly toxic to Eastern Oyster, high surface runoff potential
Fosamine	Krenite S	Tree and brush control in Zones 2 & 3	Selective broadleaf treatment	Effective broadleaf tree control without visual impacts	None	None
Glyphosate	Roundup Pro Razor Pro Buccaneer Aquaneat Rodeo Aquamaster	Zone 1, spot spray around shrub and tree plantings, aquatic weed control (Rodeo, Aquamaster)	Nonselective control of all vegetation	Rodeo, Aquamaster and Aquaneat are approved for use in or over water. Aquatic versions of glyphosate products are approved for use with NPDES permit.	None	None
Imazapyr	Arsenal Habitat	Zone 1	Pre and post-emergent non-selective control of all vegetation	Habitat is an aquatic version of Arsenal - good alternative to glyphosate in certain cases	None	High surface runoff potential, potentially mobile in soil if rain is possible.
Isoxaben	Gallery 75DF	Turf & Ornamental	Pre-emergent weed control in ground cover beds	Works well by itself or with Ronstar	Restricted for use within 60' of all water	High surface runoff potential
Metsulfuron-methyl	Escort XP Metsulfuron Methyl 60 DF	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf and conifer treatment	None	None	None
Norflurazon	Predict	Zone 1	Pre-emergent Weed control in Zone 1 and ground cover beds	Good Zone 1 product but may be difficult to keep in suspension	Restricted for use within 60' of all water	High surface runoff potential
Oryzalin	Oryzalin A.S. Surflan A.S	Zone 1 Ornamental planting beds	Pre-emergent Weed control in Zone 1 and ground cover beds	Product requires additional rinsing to thoroughly remove residues from empty container	Restricted for use within 60' of all water	Highly toxic to fish
Oxadiazon	Ronstar G Ronstar WSP	Turf & Ornamental	Pre-emergent weed control in ground cover beds	Works well by itself or with Gallery	Restricted for use within 60' of all water, gardens, plants bearing edible fruit	Highly toxic to fish
Pendimethalin	Pendulum 2G Pendulum Aqua	Zone 1 Turf & Ornamental	Nonselective Pre-emergent grass and weed control	None	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly toxic to fish, high potential for loss on eroded soil
Picloram	Tordon	Noxious and nuisance weed control, Zones 2 and 3	Selective broadleaf treatment	Highly effective for conifer and broadleaf weed control in Eastern Washington	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	Highly mobile in soil and readily adsorbed through roots of desirable trees
Pyraflufen	Edict	Noxious and nuisance weed control, Zones 2 and 3	2,-4-D substitute, effective on Kochia, Russian thistle	Effective with Roundup for Kochia control	Restricted for use within 60' of all water	Irreversible eye damage, highly toxic to Rainbow Trout
Sulfentrazone	Portfolio	Zone 1	Nonselective pre-emergent grass and weed control	New product available for use in 2006	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	High surface runoff potential, potentially mobile in soil if rain is possible.
Sulfometuron-methyl	Oust Landmark XP	Zone 1	Nonselective pre/post emergent grass and weed control	Landmark is premixed with Telar	None	None
Tebuthiuron	Spike 80DF	Zone 1	Nonselective pre-emergent grass and weed control	None	Westside - Restricted for use Eastside - Restricted for use within 60' of all water	High surface runoff potential, potentially mobile in soil if rain is possible.
Triclopyr Amine	Garlon 3A	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	None	None	Irreversible eye damage
Triclopyr Ester	Garlon 4 Crossbow Pathfinder	Noxious and nuisance weed control, and tree and brush control, Zones 2 and 3	Selective broadleaf treatment	Works well for invert applications. Crossbow is premixed with 2,4-D, Pathfinder with clopyralid	Restricted for use within 60' of all water	Highly toxic to fish

Appendix C:

Olympic Region Area 2
Zone 1 Maintenance
Map 1 of 1

Washington State Department of Transportation

2009

This plan describes the limits of routine annual mowing for limited access highways within Maintenance Area 2 in the Olympic Region. The areas that are routinely mowed are intended to be maintained as grass stands. It is not essential that areas designated for routine mowing be mowed every year as described below, in years where the area resources do not allow for accomplishment of all planned maintenance activities some of the areas designated in this plan may be skipped. Any mowing beyond designated routine mowing areas will be on an as needed basis, when planned as part of Integrated Vegetation Management (IVM) treatments for control of weeds and/or undesirable brush and trees.

General Guidelines for Annual Mowing Areas

1) Annual routine mowing typically will begin around the first of May starting with designated gateway interchanges and urban areas. These areas may be mowed again as needed throughout the summer as time and budgets allow. The goal in these areas is to maintain a mowed appearance throughout the year.
2) All other roadside areas will be mowed a minimum of once per year in the widths and timing described below. The goal in these areas is to provide added highway delineation and to prevent the establishment of unwanted brush and trees along the edge of pavement.
3) Mowing height should be set at a minimum of 6 inches.
4) Avoid mowing steep slopes or wet areas with equipment that may result in tearing or rutting of the grass stand. Any areas bare soil is exposed from mowing practices or vehicles leaving the roadway should be re-seeded with grass the following fall or spring whenever possible.
5) When mowing around or next desirable shrubs more than 6 to 8 ft. from the pavement edge, leave a 3 to 6 ft. buffer if possible to allow these plant populations to expand over time.

Gateway Interchanges and Urban Areas

1) The following interchanges will be mowed out completely, beginning no earlier than the first of May, from edge of pavement to shrub/tree or fence lines, except where slopes are greater than 2:1. These areas may be mowed two or more times throughout the spring and summer to maintain a year-round mowed appearance.

SR-16: Wollochet Dr.

SR 160

SR-3: Loxie Eagans Blvd.

Kitsap Way

Austin Drive

SR 303

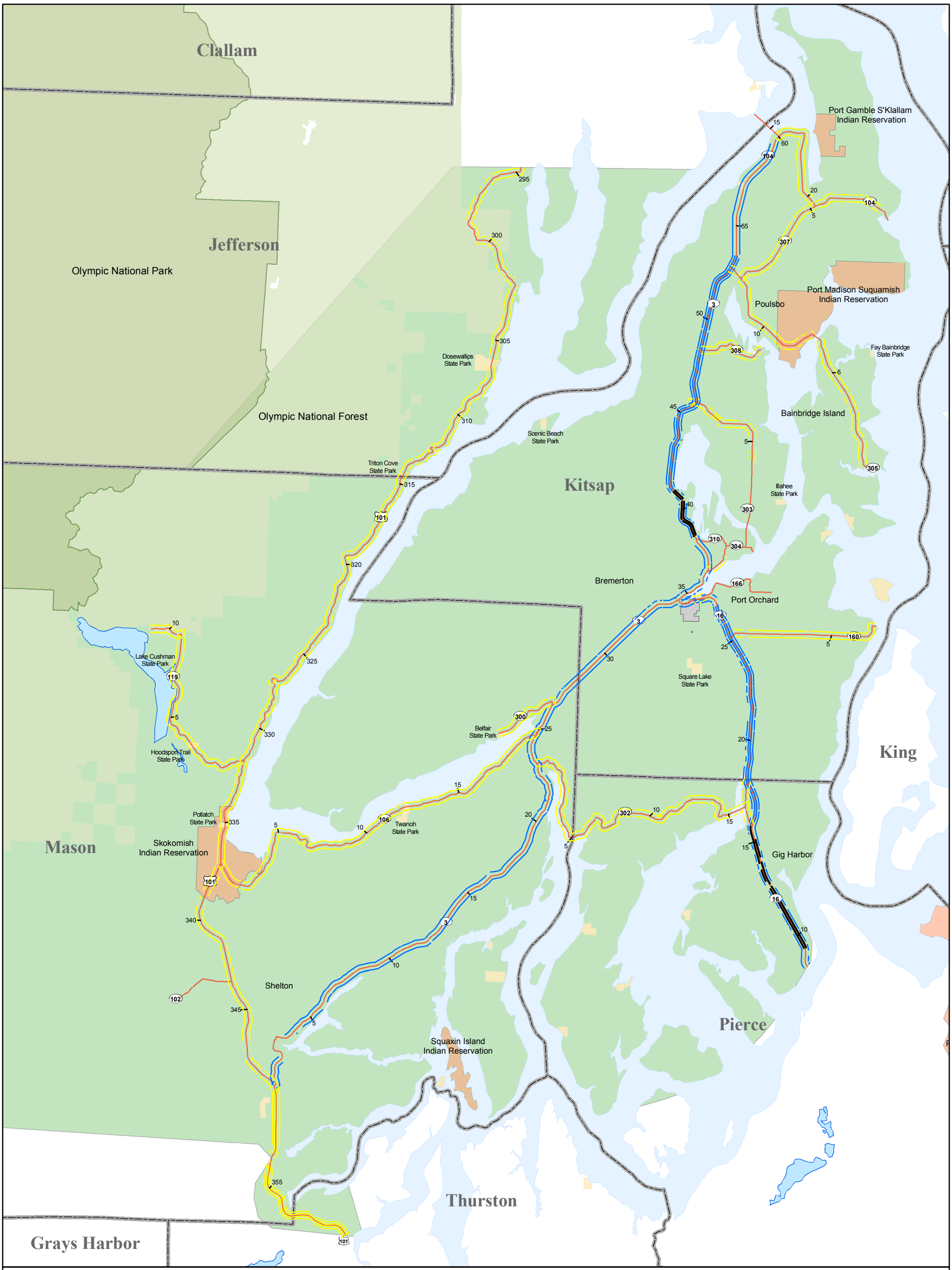
General Roadside Mowing Areas

1) Road shoulders in all other areas, both outside shoulders and median, will be mowed one time per year in either single or multi-pass widths as shown on the area map in this appendix and described below. Mowing of these areas will be timed to begin once top growth on grasses has matured and seed heads have developed, but no earlier than the first of June. The goal is to have all general roadside mowing areas completed by the end of July. Width of mowing in areas designated as single pass will be determined by the width of mowing equipment. Outside shoulders adjacent to steep (2:1 or greater) cut slopes will only receive one mowing pass adjacent to pavement. Steep fill slopes behind guardrail will only be mowed if accessible, and otherwise treated with IVM for control of

unwanted vegetation. The only areas where medians are annually mowed across their entire width are around Gig Harbor and Bremerton:

SR-16: MP 10.8 to 15.1

SR-3: MP 38.5 to 41



As Needed	Coast
Multi Pass	Indian Reservations
Single Pass	Cities
75 Mile Post	State Park
State Route	OLarea2
Major Lakes	National Forest
County Boundaries	National Park

0 5
Miles

N

Washington State Department of Transportation

Appendix D:

Olympic Region Area 2
Mowing Maintenance
Map 1 of 1

2009

Noxious Weed Identification

Designated for control in OL area 2:
(Jefferson, Pierce, Mason, and Kitsap County)

Giant Hogweed/
Heracleum mantegazzianum

Butterfly bush/
Buddleha davidi

Knapweed sp./
Centaurea sp.

Knotweed sp./
Polygonum sp.

Poison Hemlock/
Conium maculatum

Tansy Ragwort/
Senecio jacobaea

Noxious Weed Identification

Designated for control in OL area 2:
(Jefferson, Pierce, Mason, and Kitsap County)

Wild Chervil/
Athriscus sylvestris

Yellow Hawkweed/
Hieracium caespitosum

Nuisance Weed Identification

Nuisance weeds in OL area 2:
(Jefferson, Pierce, Mason, and Kitsap County)

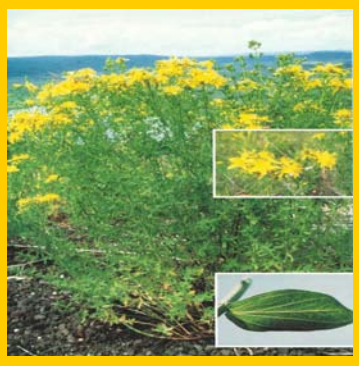
Himalayan Blackberry/
Rubus discolor

Scotch Broom/
Cytisus scoparius

Musk Thistle/
Carduus nutans

Common Tansy/
Tanacetum vulgare

St. Johnswort/
Hypericum perforatum



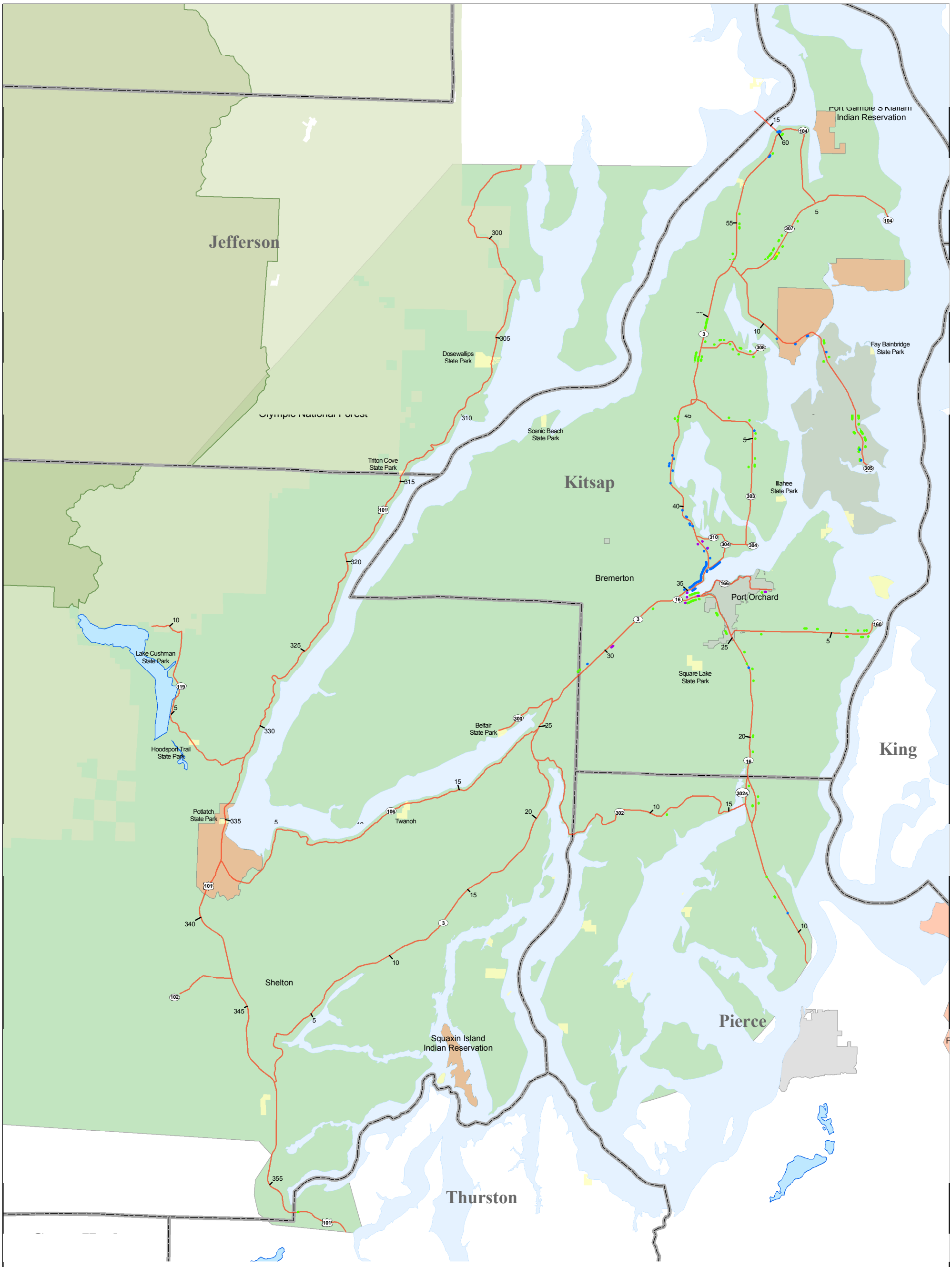
Canada Thistle/
Cirsium arvense

Nuisance weeds in OL area 2:
(Jefferson, Pierce, Mason, and Kitsap County)

Bull Thistle/
Cirsium vulgare

Common Mullein/
Verbascum thapsus

Knotweed sp./
Polygonum sp.



Washington State Department of Transportation

Appendix E:

Olympic Region Area 2 Noxious Weed Locations Map 1 of 1

2009

Appendix F *Special Maintenance Areas*

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mike markers or decreasing (DEC) mile markers.
Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
003	INC	RS	36.29	36.69	I/C Ramp to SR 304	Mow out quadrants
003	INC	RS	37.01	37.78	I/C Loxie Eagans Blvd	Mow out quadrants
003	INC	RS	38.03	38.76	I/C Kitsap Way - SR 310	Mow out quadrants
003	INC	RS	39.08	39.75	I/C Austin Drive	Mow out quadrants
003	INC	RS	40.84	41.71	I/C Chico Way	Mow out quadrants
003	INC	RS	43.19	44.02	I/C Newbury Hill Rd	Mow out quadrants
003	INC	RS	45.28	46.19	I/C Clear Creek Rd	Mow out quadrants
003	INC	RS	46.63	47.34	I/C Trigger Ave	Mow out quadrants
003	INC	RS	47.97	49.01	I/C Luoto Rd	Mow out quadrants
003	INC	RS	51.91	52.26	I/C Finn Hill Rd	Mow out quadrants
003	INC	RS	52.03	52.04	Johnson Creek	Wetland Mitigation Site
003	INC	RS	52.41	53.28	I/C to SR 305	Mow out quadrants
003	DEC	RS	36.58	36.35	I/C On Ramp from SR 304	Mow out quadrants
003	DEC	RS	36.61	36.60	Sinclair Inlet	Wetland Mitigation Site
003	DEC	RS	37.58	36.87	I/C Loxie Eagans Blvd	Mow out quadrants
003	DEC	RS	38.62	37.86	I/C Kitsap Way - SR 311	Mow out quadrants
003	DEC	RS	39.53	38.96	I/C Austin Drive	Mow out quadrants
003	DEC	RS	41.38	40.72	I/C Chico Way	Mow out quadrants
003	DEC	RS	43.77	42.92	I/C Newbury Hill Rd	Mow out quadrants
003	DEC	RS	45.91	45.14	I/C Clear Creek Rd	Mow out quadrants
003	DEC	RS	47.14	46.24	I/C Trigger Ave	Mow out quadrants
003	DEC	RS	48.82	47.87	I/C Luoto Rd	Mow out quadrants
003	DEC	RS	52.25	51.81	I/C Finn Hill Rd	Mow out quadrants
003	DEC	RS	53.21	52.57	I/C to SR 305	Mow out quadrants
003	Both	RS	1.58	3.58	City of Shelton	
003			6.57		Old Shelton Stockpile Site	
003			15.00		Unnamed Stockpile Site	
003			16.00		Pit Site x116	
003			25.00		Belfair Maint. Storage Site	
016	INC	RS	10.46	11.20	I/C Olympic Dr. NW	Mow out quadrants
016	INC	RS	11.71	12.17	I/C Wollochet Dr. NW	Mow out quadrants
016	INC	RS	14.55	15.36	I/C Burnham Dr.	Mow out quadrants
016	INC	RS	15.40	15.80	I/C to SR 302	Mow out quadrants
016	INC	RS	18.05	18.64	On Ramp to SR 016	
016	INC	RS	22.27	23.09	I/C Mullenix Rd	Mow out quadrants
016	INC	RS	24.85	25.66	I/C Sedgwick Rd	Mow out quadrants
016	INC	RS	26.43	27.05	I/C Old Clifton Rd-Tremont St.	Mow out quadrants
016	DEC	RS	11.03	10.26	I/C Olympic Dr. NW	Mow out quadrants
016	DEC	RS	12.28	11.86	I/C Wollochet Dr. NW	Mow out quadrants
016	DEC	RS	15.21	14.35	I/C Burnham Dr.	Mow out quadrants

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mike markers or decreasing (DEC) mile markers.
Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
016	DEC	RS	15.78	15.38	I/C to SR 302	Mow out quadrants
016	DEC	RS	18.42	18.05	I/C to Sr 302 SPPURDY	Mow out quadrants
016	DEC	RS	22.76	22.75	Burley Creek	Wetland Mitigation Site
016	DEC	RS	22.95	22.08	I/C Mullenix Rd	Mow out quadrants
016	DEC	RS	25.42	24.67	I/C Sedgwick Rd	Mow out quadrants
016	DEC	RS	26.77	26.14	I/C Old Clifton Rd-Tremont St.	Mow out quadrants
101	INC	RS	345.04	345.65	I/C Wallace Blvd	Mow out quadrants
101	INC	RS	346.88	346.94	I/C Shelton-Matlock Rd	Mow out quadrants
101	INC	RS	348.96	350.39	I/C To SR 003	Mow out quadrants
101	INC	RS	353.21	353.81	I/C Olympic Highway-SR 108	Mow out quadrants
101	DEC	RS	345.40	344.79	I/C Wallace Blvd	Mow out quadrants
101	DEC	RS	347.12	346.47	I/C Shelton-Matlock Rd	Mow out quadrants
101	DEC	RS	350.26	349.20	I/C To SR 003	Mow out quadrants
101	DEC	RS	353.76	353.07	I/C Olympic Highway-SR 108	Mow out quadrants
101	Both	RS	297.82	299.54	Olympic National Forest	
101	Both	RS	301.79	302.09	Olympic National Forest	
101	Both	RS	305.04	305.38	Olympic National Forest	
101	Both	RS	306.64	307.01	Dosewallips State park	
101	Both	RS	314.46	314.60	Triton Cove State Park	
101	Both	RS	334.13	334.98	Skokomish Tribe	
101	Both	RS	334.98	335.22	Potlatch State Park	
101	Both	RS	335.22	338.82	Skokomish Tribe	
101			306.00		Dosewallips Pit Site	
101			306.10		Rocky Brook Pit Site	
101			319.00		Allie Ahl Quarry Site	
101			320.00		Hamma Hamma Stockpile Site	
101			324.70		Eagle Cr. Stockpile Site	
101			329.00		Sunds Creek Pit Site	
101			334.00		Shelton Waste Site	
101			351.80		Taylor Towne Storage Site	
106	Both	RS	0.00	1.44	Skokomish Tribe	
106	Both	RS	12.20	12.52	Twanoh State Park	
119	Both	RS	2.98	3.34	Hoodsport Trail State Park	
119	Both	RS	7.04	8.13	Lake Cushman State Park	
119	Both	RS	9.22	9.67	Olympic National Forest	
119	Both	RS	9.93	10.93	Olympic National Forest	
160	Both	RS	0.00	0.33	City of Port Orchard	

Table 3.0

Locations are distinguished between the sides of the highway by right shoulder (RS) or left shoulder/median (LS) in relation to either increasing (INC) mike markers or decreasing (DEC) mile markers.
Description - Brief explanation of special treatment required

SR	Direction	Shoulder	BEG MP	END MP	Type	Description
166	Both	RS	0.57	4.95	City of Port Orchard	
300	Both	RS	0.12	0.34	Bell Fair State Park	
303	INC	RS	1.16	1.37	I/C Callahan Dr.	Mow out quadrants
303	INC	RS	6.46	6.82	I/C Central Valley Rd	Mow out quadrants
303	INC	RS	7.48	7.89	I/C Rdigetop Blvd	Mow out quadrants
303	INC	RS	8.28	8.46	I/C Silverdale Way	Mow out quadrants
303	DEC	RS	1.25	1.11	I/C Callahan Dr.	Mow out quadrants
303	DEC	RS	6.66	6.50	I/C Central Valley Rd	Mow out quadrants
303	DEC	RS	7.89	7.30	I/C Rdigetop Blvd	Mow out quadrants
303	DEC	RS	8.47	8.24	I/C Off Ramp from SR 003	Mow out quadrants
303	Both	RS	0.00	2.75	City of Bremerton	
304	Both	RS	0.75	3.51	City of Bremerton	
305	Both	RS	0.02	6.82	City of Bainbridge	
305	Both	RS	7.00	9.16	Port Madison Suquamish Tribe	
305	Both	RS	10.69	12.36	City of Poulsbo	
305	Both	RS	12.81	13.30	City of Poulsbo	
305			5.20		Bainbridge Is. Pit Site	
307	Both	RS	0.00	0.09	City of Poulsbo	
310	Both	RS	0.00	1.84	City of Bremerton	
?			-122.55	47.60	Sche-chelb Estuary	Wetland Mitigation Site

Washington State Department of Transportation

Integrated Vegetation Management Record

Org Code	County	Date		Vegetation Management Zone(s)
		6/13/2007		☐ Zone 1 ☐ Zone 2 ☐ Zone 3

Area
SR. _____ MP _____ to MP _____ Location

Check Appropriate Boxes: ☐ NB ☐ EB ☐ SB ☐ WB
☐ Roadside ☐ Shoulder ☐ Median
☐ Landscaped Area ☐ Rest Area ☐ Park-n-Ride
☐ Interchange ☐ Bridge ☐ Ramp
☐ Mitigation Site ☐ Stormwater ☐ Yard/Stockpile
Third Party Damage ☐ Yes
Sensitive Sites ☐ Aquatic ☐ Wetlands

Target ☐ Noxious Weeds ☐ Nuisance Weeds ☐ Brush/Trees ☐ Hazard Tree ☐ Other
List Target/Species: _____

Reason for Action:
☐ Noxious Weeds ☐ Nuisance Weeds ☐ Fire Prevention ☐ Restore Native Veg. ☐ Zone 1 Pilot ☐ Aesthetic
☐ Site Distance ☐ Hazard Vegetation ☐ Customer Request ☐ Enhance Vegetation ☐ Slope Stabilization ☐ Other _____

Long term IVM plan (Describe goals/objectives and a step-by-step approach over time)

Approximate Acres to Accomplish

Activities		Planned date of Treatment	Actual date of Treatment
Manual	☐ Digging ☐ Pulling ☐ Planting ☐ Lopping ☐ Scalping ☐ Other _____		
Mechanical	☐ Axial Saw Work ☐ Tractor Brush Cutter ☐ Mower/Chain ☐ Manual Brush Cutting ☐ Tractor Mower ☐ Other		
Bio-Control	☐ Insects ☐ Pathogens ☐ Parasites Type/Species _____		
Cultural	☐ Burning ☐ Grading ☐ Seeding ☐ Fertilizing ☐ Grazing ☐ Soil Amendment ☐ Other _____		
Chemical	Record Number		

#1 Evaluation and Date

#2 Evaluation and Date

#3 Evaluation and Date

Washington State Department of Transportation

Pesticide Application

Org. Code	County	Date of Application	Start / Finish	ICP	Stores Issue Ticket Number(s)
		6/13/2007	○ AM ○ PM / ○ AM ○ PM		

Area
SR ____ MP ____ to MP ____ and MP ____ to MP ____ and MP ____ to MP ____ and MP ____ to MP ____

Check Appropriate Boxes:
☐ NB ☐ EB ☐ SB ☐ WB
☐ Roadside ☐ Landscaped Area ☐ Interchange ☐ Yard/Stockpile
☐ Shoulder ☐ Rest Area ☐ Bridge
☐ Median ☐ Park-n-Ride ☐ Ramp
☐ Spot Spray ☐ Blanket Spray
☐ Aquatic ☐ Wetlands

☐ Weeds ☐ Noxious Weeds ☐ Disease
☐ Brush ☐ Insects ☐ Other
Zone 1 ○ yes ○ no
List Pest(s):

Start Weather Conditions
Temperature ____ (°F/°C) Wind (Direction From) ____ Wind (Range) ____ mph(km/h)
○ Sunny ○ Broken ○ Overcast No Rain ○ Light Scattered Showers ○ Hard Showers

Finish Weather Conditions
Temperature ____ (°F/°C) Wind (Direction From) ____ Wind (Range) ____ mph(km/h)
○ Sunny ○ Broken ○ Overcast No Rain ○ Light Scattered Showers ○ Hard Showers

Tank No.	Material Name	Material Type	EPA Reg. No.	Lot Number	Product Per Acre (hectare)	Unit	Total Daily Usage	Unit

Total ____ **Acres(hectares) Treated at** ____ **gallons(liters) of spray per acre(hectare).**

Equipment Number	Tank Size 1 2 3 4 5	Calibration Date	Vehicle Speed mph(km/h)	Nozzle Pressure PSI(kPa)	Width of Spray Pattern Feet(meter)

☐ Hand/spreader ☐ Backpack ☐ Hand gun ☐ Fixed Nozzle ☐ Boom ☐ Other (Specify) ____
☐ Tank Mix (Conv.) ☐ Injection ☐ Invert

Operator Name	Operator Pesticide License No.	Operator Signature	Driver Name

Remarks

Buffer Truck Driver's Name

Pesticide Sensitivity Registration Applies: ☐ Yes ☐ No

Contact

Division of Emergency Management (1-800-258-5990) Additional Notes

DOT Form 540-506 EF Revised 1/2007 Distribution: O/C Maint. Operator Region File
Send OSC Copy Within 5 Days

Oz= Ounce Dry Lb= Pound
Oz= Ounce Liquid Ga= Gallon
Pt= Pint Qt= Quart
g= gram kg=kilogram
ml=Milliliter L= Liter

Entity	Mailing Address	Contact Person	Title	Phone	E-Mail
City of Poulsbo	780 NE Iverson St. Poulsbo, WA 98370	Jeff Bauman	Public Works Director	(360) 779-4078 Fax (360) 779-6384	jbauman@cityofpoulsbo.com
City of Bainbridge Island	280 Madison Ave. N. Bainbridge Island, WA	Randy Witt	Public Works Director	(206) 842-2016	pwadmin@ci.bainbridge-isl.wa.us
City of Bremerton	3027 Olympus Drive Bremeton, WA 98310	Phil Williams	Public Works Director	(360) 473-5315	phil.williams@ci.bremerton.wa.us
City of Port Orchard	216 Prospect St. Port Orchard			(360) 876-4991 Fax (360) 876-4980	cityhall@ci.port-orchard.wa.us
City of Gig Harbor	3510 Grandview St. Gig Harbor, WA 98335	Marco Malich	Public Works Supervsior	(253) 851-8136	malichm@cityofgigharbor.net
City of Shelton	525 W. Cota St. Shelton, WA 98584	Jay Ebbeson	Public Works Director	(360) 432-5120	publicworks@ci.shelton.wa.us
Jefferson County	201 W Patison Port Hadlock, WA 98339	Jeff Gabster	Noxious Weed Coordinator	(360) 379-5610 Fax (360) 379-5617	
Mason County	11840 Highway 101 Shelton, WA 98584	Pat Grover	Noxious Weed Coordinator	(360) 427-9670 Fax (360) 427-7264	pgrover@wsu.edu
Kitsap County	345 6th St., Suite 550 Bremerton, WA 98337	Dana Coggan	Noxious Weed Coordinator	(360) 307-4242	dcoggon@co.kitsap.wa.us
City of Belfair					
City of Hoodsport					
Suquamish Tribe					
City of Allyn					